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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,616	07/18/2003	Matthew David Tarler	CMD-005	2655

7590 09/07/2004
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EXAMINER

DAVIS, OCTAVIA L

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,616

Applicant(s)

TARLER, MATTHEW DAVID

Examiner

Octavia Davis

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. Claims 1 – 4 and 6 – 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Jiang et al.

Regarding claims 1 and 4, Jiang et al disclose a method for forming a conductive interconnection from a matrix material having ferromagnetic particles comprising a flexible, compliant matrix 116 which is essentially non-conductive, and discrete electrically conductive elements 114 within the matrix, wherein the electrically conductive elements in a region of the composite sheet or matrix are arranged into columns 120 and their orientations are in organized, non-random pattern with a majority of the columns oriented at angles less than about 90 degrees and greater than 15 degrees to the lower surface of the composite material (See Col. 5, lines 37 – 58).

Regarding claims 2 and 11, the composite material 116 has a high strength (See Col. 9, lines 40 – 48).

Regarding claims 3 and 10, the matrix is formed from an elastomer (See Col. 9, lines 40 – 48).

Regarding claim 6, wherein the majority of columns are oriented at angles less than about 90 degrees and greater than 45 degrees (See Figs. 19 and 22).

Regarding claim 7, the elements 114 are situated inside of a material 112 and are

Art Unit: 2855

aligned in the columns while still in the material.

Regarding claims 8 and 9, the matrix material is polymer (See Col. 9, lines 40 – 48).

Regarding claim 12, the molded material is flattened and a contact layer is applied to the surface (See Col. 7, lines 37 – 45, See Fig. 22).

Regarding claim 13, the conductive elements 114 are aligned with a magnetic field (See Cols. 5 and 6, lines 64 – 67 and 1 – 2).

Regarding claim 14, the material comprises an upper layer 126 and a lower layer 104 with the composite sheet 116 situated between the layers (See Fig. 7).

Regarding claims 15 - 17 the upper layer is formed from multiple conductive lines (See Col. 5, lines 59 – 64).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang et al in view of Kiraly.

Regarding claim 5, Jiang et al disclose all of the limitations of these claims except for a teaching that the conductive elements are spherical. However, Kiraly discloses a laminated structural device comprising spherical conductive elements 18, 20 embedded in respective layers 14, 16 (See Col. 2, lines 50 – 54).

Art Unit: 2855

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Jiang et al according to the teachings of Kiraly for the purpose of, providing a contact location from a power source to conductive filaments to apply a selective charge to the filaments (See Kiraly, Col. 2, lines 55 – 61).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Huegli (4,963,408) teaches a unitary composite laminate structure.

Bogetti et al (5,635,272) teach a fiber reinforced composite structure.

Inabata (4,939,038) teaches a light metallic composite material.

Middelmann et al (5,496,613) teach a laminate comprising layers of an electrically non-conductive matrix material.

Medney et al (5,478,421) teach a method for making composite structures by filament winding.

Meteer et al (5,773,121) teach a syntactic foam for incorporating honeycomb structures for composites.

Bowditch (3,631,881) teaches a pneumatic interconnection board.

Meldner et al (5,470,632) teach an improved reinforced laminate for use in a flexible sheet.

Art Unit: 2855


6. Any inquiry concerning this communication should be directed to examiner Octavia Davis at telephone number (571) 272 - 2176. The examiner can normally be reached on Monday - Thursdays (9:00 - 5:00), Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (571) 272 - 2180. The fax phone number for the organization where this application where this application or proceeding is assigned is (703) 872 - 9306.



OD/2855

8/30/04



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